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10/581,958	09/20/2006	Poul Erik Jespersen	PATRADE	8746

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EXAMINER

SCRUGGS, ROBERT J

ART UNIT	PAPER NUMBER
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3723

MAIL DATE	DELIVERY MODE
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08/01/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,958	JESPERSEN, POUL ERIK	
	Examiner	Art Unit	
	ROBERT SCRUGGS	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment received on May 19, 2011. Claims 1-3, 5-11 and 13-20 remain pending in the application and have been fully examined.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-9, 10, 11, 13, 17 and 18 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823) optionally in view of Oya (4078905) further in view of Bohler et al. (6244943) and Bottcher (3166874).

In reference to claims 1 and 6, Platt discloses a grinding apparatus for processing a workpiece (the examiner notes that the type of workpiece being used still does not add patentable weight to the claim because the invention is directed to a grinding apparatus not to the workpiece being used therefore as long as the structure of the grinding apparatus, of Platt, meets the structure required by the claims the device could obviously be used on any type of workpiece, which includes one having edges, roundings and burrs, however, the examiner has also included Oya to further show that grinding of different workpieces is known in the art and is discussed in further detail

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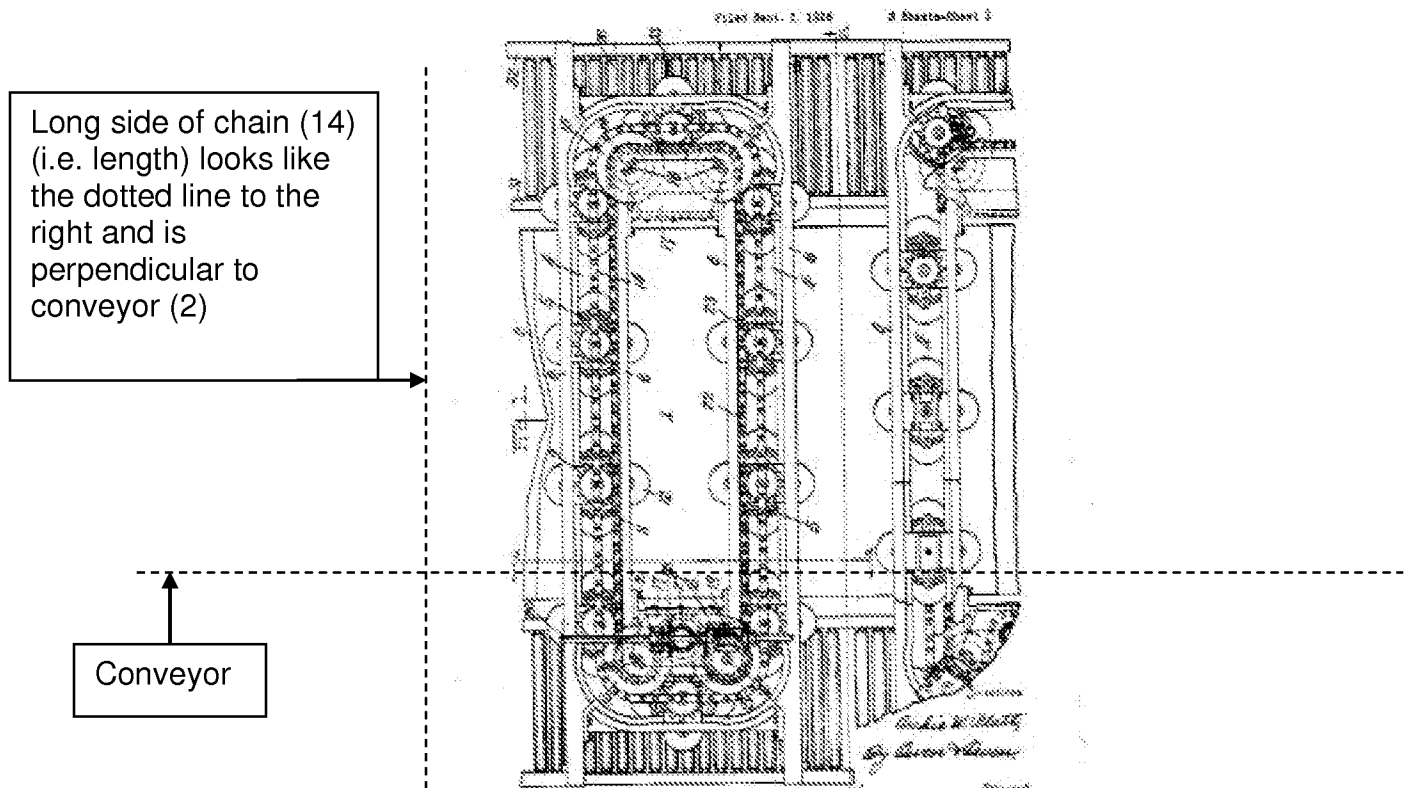
below) comprising: a support arrangement (8) holding a number of grinding heads (12) each of which include grinding elements (i.e. felt), wherein the support arrangement include a supporting suspension (6) coupled to an endless conveyer means formed as drive chain (14 and 22) which moves the grinding heads in an annular coarse by at least one driving shaft (20) that is obviously connected to a driving motor (Page 2, Column 1, Lines 1-14), the drive chain being moved in an annular coarse thus the grinding elements move in an epicyclic manner (Figure 1) (Page 2, Column 1, Lines 1-19) and said chain including at least one long side/plane (see figure below) perpendicular to an underlying conveyor (2), but lacks, a grinding motor for each grinding head and specifically disclosing that the driving shaft (20) is driven by a motor and connected to a ball/bowl joint and including a second grinding apparatus that grinds an underside of the workpiece. However, Rosa teaches a technique of providing a plurality of grinding heads (4) (Figures 6 and 17) with a motor (82), respectively, that individually rotates said grinding head and wherein said grinding heads are capable of moving vertically up and down with respect to the workpiece (see figure below). It would have been obvious to one of ordinary skill in the art to modify the single drive chain (22), which drives all the driving heads, of Platt, with the known technique of providing multiple grinding motors that individually drive a grinding head, wherein said grinding heads are capable of moving vertically up and down with respect to the workpiece, as taught by Rosa, and the results would have been predictable. In this situation, one could individually maintain constant pressure at different locations thereby removing material from the surface of the workpiece without causing undesired stress. The examiner notes that obviously

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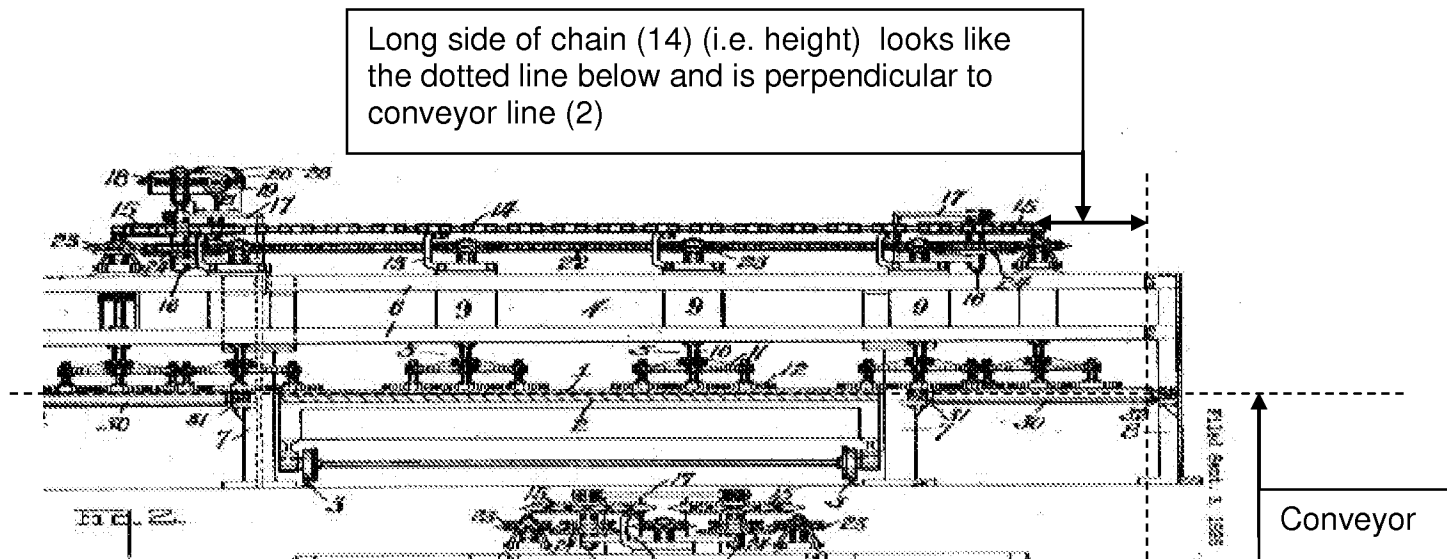
drive shaft (20) is connected to a motor for rotation otherwise the device would not work properly. Assuming *arguendo*, that a motor is not used than Heuze may be used for teaching that it is old and well known in the art to move a chain (11) (or rope) which holds a plurality of grinding elements (4) by using a motor (Page 2, Column 1, Lines 17-21). It would have been obvious to one of ordinary skill in the art to modify the device, of Platt, with the known technique of using a motor to actuate a chain, as taught by Heuze, and the results would have been predictable. In this situation, one could easily move the grinding elements across the workpiece without using manual force. Next, Oya teaches that it is old and well known in the art to grind a workpiece (A) having edges, roundings and burrs (see abstract) on a conveyor by using rotating grinding elements (9) (Figure 1). It would have been obvious to one of ordinary skill in the art to modify the workpiece, of Platt, with the known technique of grinding a workpiece having edges, roundings and burrs, as taught by Oya, and the results would have been predictable. In this situation, one could provide a more versatile device that can grind the surfaces of various workpieces in a single machining operation. Furthermore, Bohler et al. teach a technique of connecting the driving shaft of a grinding apparatus to a ball joint mechanism (6) (Figure 1). It would have been obvious to one of ordinary skill in the art to modify the connection of the drive shaft, of Platt, with the known technique of connecting a drive shaft to a ball joint mechanism, as taught by Bohler et al., and the results would have been predictable. In this situation, one could provide a more versatile grinding tool that can remove material from a workpiece having curved surfaces. Finally, Bottcher teaches that it is old and well known in the art to include a

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second lower grinding apparatus (26) which can grind the underside of a workpiece after it has gone through a conveyer system (20) (Figure 1). It would have been obvious to one of ordinary skill in the art to modify the device, of Platt, with the known technique of including a second lower grinding apparatus, as taught by Bottcher, and the results would have been predictable. In this situation, one could more effectively remove material from the bottom of the workpiece.



Or the device can be interpreted as below.



In reference to claims 2 and 10, Platt also discloses using drive chains (14 and 22) for engaging drive wheels (15) driven by moving motors (Page 2, Column 1, Lines 1-14) and assuming *arguendo*, that a motor is not used than Heuze may be used for teaching that it is old and well known in the art to move a chain (11) (or rope) which holds a

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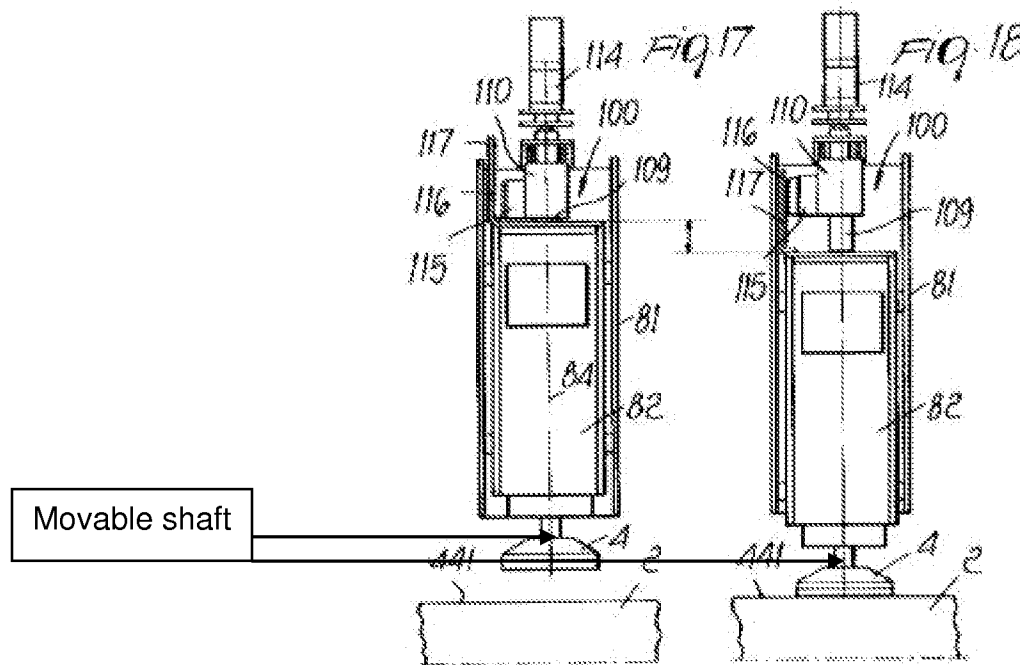
plurality of grinding elements (4) by using a motor (Page 2, Column 1, Lines 17-21) as previously discussed above.

In reference to claims 3, 11 and 18, Rosa also teaches of providing a support arrangement (51) that is adjustable in height approximately parallel to the plane of the work surface by displacing force elements (71) (Column 4, Lines 23-27).

In reference to claim 7, Platt also shows that the conveyor includes a long side perpendicular to the underlying conveyor as previously shown above.

In reference to claims 8 and 9, Platt also discloses that the endless conveyor includes one or more drivers formed as a driving chain (14).

In reference to claim 13, Rosa also teaches of providing a movable shaft (see figure below) connected to the grinding motors, such that the grinding elements are movable in a direction perpendicular to the workpiece.



In reference to method claim 17, Platt modified by the prior art as previously discussed above with respect to claims 1 and 6 also provides a support structure, suspending plural grinding heads from the support structure, providing each grinding head with a grinding element and an associated grinding motor, driving the grinding element with the grinding motor, coupling an endless conveyor to the support structure in a plane perpendicular to a plane of the support structure, moving the endless conveyor annularly along the support structure with at least one moving motor coupled to the endless conveyor, coupling the plural grinding heads being with the endless conveyor, moving the plural grinding heads transverse of a direction of movement of the work-piece, moving the grinding elements epicyclically across the work-piece during grinding

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operation, and processing any shape or form of the work-piece as previously discussed above.

4. Claim 5, 14 and 19 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823), Oya (4078905), Bohler et al. (6244943), Bottcher (3166874), Knost (2985989) and Price et al. (2901868). Platt discloses the claimed invention previously mentioned above, but lacks, having grinding elements that rotate in opposite directions. However, Knost teaches a technique of rotating multiple grinding elements (26-29) in opposite directions (Figure 3). In addition, Price et al. also teach a technique of rotating a row of grinding elements (20) in an opposite direct from a second row of rotating elements (20) (Figure 2) (Column 2, Lines 27-31). It would have been obvious to one of ordinary skill in the art to modify the grinding elements, of Platt, with the known technique of rotating rows of grinding elements in opposite directions with respect to each other, as taught by Knost and Price et al., and the results would have been predictable. In this situation one could more effectively grind a workpiece such that it is provided with a true and level surface finish.

5. Claims 15, 16 and 20 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Platt (1666347) in view of Rosa (6113472), Heuze (1864823), Oya (4078905), Bohler et al. (6244943), Bottcher (3166874).and Price et al. (2901868). Platt discloses the claimed invention previously mentioned above, but lacks, having grinding

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elements that rotate in opposite directions. However, Price et al. also teach a technique of rotating a row of grinding elements (20) in an opposite direct from a second row of rotating elements (20) (Figure 2) (Column 2, Lines 27-31). It would have been obvious to one of ordinary skill in the art to modify the grinding elements, of Platt, with the known technique of rotating rows of grinding elements in opposite directions with respect to each other, as taught by Knost and Price et al., and the results would have been predictable. In this situation one could more effectively grind a workpiece such that it is provided with a true and level surface finish.

Response to Arguments

6. Applicant's arguments filed May 19, 2011 have been fully considered but they are not persuasive.

Applicant contends that, **“Because claims 2 and 10 limit the claimed invention by claiming more than one drive chain, Platt is an improper reference because it cannot be said that it contains more than one drive chain independent of the other.”** However, the examiner respectfully disagrees with this statement. Platt discloses that the grinding heads are move by drive chains (14 and 22) thereby meeting the limitation of providing a conveyer constituted by a number of drive chains therefore the examiner believes the rejection is prop and thus is maintained.

Applicant contends that, **“The examiner cites Knost for teaching a technique of rotating multiple grinding elements in opposite directions. The examiner then**

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cites Price for teaching a technique of rotating a row of grinding elements (20) in an opposite direction from a second row of rotating elements. Yet no part of Knost, nor any part of Price, has taught or suggested the feature of successive rows which rotate in opposite directions relative to a given grinding surface.”

However, the examiner respectfully disagrees with this statement. Knost does teach of rotating grinding heads in opposite directions and Price shows rotating rows of grinding heads in opposite directions therefore the combination as a whole meet the limitations of the claims therefore the examiner believes the rejection is prop and thus is maintained.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT SCRUGGS/
Primary Examiner, Art Unit 3723